

## REMARKS

This amendment is submitted in response to the final Office Action mailed on August 13, 2008. Claims 1-3, 5-15, 17-19, 21-23 and 25-31 are pending in the application. Claims 26 and 27 are withdrawn from consideration. Claims 1-3, 5-15, 17-19, 21-23, 25 and 28-31 have been rejected.

### 35 U.S.C. 112 Rejection

Claims 9-15, 17-19, 21-23, 25 and 28-31 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Specifically, the coating material "consisting essentially of asphalt and filler" was said to be inconsistent with the rest of the claim because elemental sulfur is added to the coating material. Claim 9 has now been amended to state that the coating material consists essentially of asphalt, filler, and elemental sulfur added to the coating material. This amendment is believed to obviate the §112 rejection.

### 35 U.S.C. 103(a) Rejection Over Miller et al. in View of Marzocchi et al.

Claims 1, 3, 5-8 and 22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US 6,228,785) in view of Marzocchi et al. (US 4,265,563). Applicants again submit that the claimed invention is patentable over the cited references at least for the reasons described in the earlier amendments. For the sake of brevity, those reasons will not be fully repeated but will be summarized as follows.

It is improper to combine the teachings of Marzocchi et al. with those of Miller et al. because they relate to distinctly different fields. Marzocchi et al. relates to a road paving composition whereas Miller et al. relates to a roof covering. David Jones, an expert in both the fields of roof coverings and road paving materials, has submitted two declarations giving his opinion that persons skilled in the roof covering field would not look to the road paving field for teachings that could be applicable to roof coverings.

Moreover, the teachings of Marzocchi et al. relate to glass flakes in a road paving composition, not to fibers having properties suitable for forming a roofing mat in a roof covering as recited in claim 1 and as disclosed in Miller et al. Consistent with the Supreme Court's ruling in *KSR International Co. v. Teleflex, Inc.*, 550 U.S. \_\_\_, 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385, No. 04-1350 slip op. (U.S. 2007), in order to combine references in a rejection under 35 U.S.C. §103(a) there must be something in the references or in the generally known art to motivate the skilled artisan to make the combination. There is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to apply the teaching related to glass flakes in a road paving composition to fibers having properties suitable for forming a roofing mat in a roof covering.

Further, even if the teachings of Marzocchi et al. were combined with Miller et al., the resulting product would not be a roofing material having significantly improved tear strength as recited in the present claims. The Miller et al. roofing material includes a web bonded to the bottom surface of the roofing material that provides significant tear resistance. The addition of the Marzocchi et al. materials to the Miller et al. roofing material would not significantly improve the tear strength above the improvement provided by the web.

35 U.S.C. 103(a) Rejection Over Miller et al. in View of Williams et al.

Claims 1-3, 5-8 and 22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US 6,228,785) in view of Williams et al. (US 4,265,563). Applicants again submit that the claimed invention is patentable over the cited references at least for the reasons described in the earlier amendments, which will be summarized as follows.

It is not proper to combine the teachings of Williams et al. with those of Miller et al. because they relate to distinctly different fields. Williams et al. relates to polymer composite articles whereas Miller et al. relates to asphalt-based roof coverings. Mr. Jones in his declaration gave his expert opinion that a person skilled in the art of roof coverings would not look to the polymer composite field for teachings that could be applicable to roof coverings.

35 U.S.C. 103(a) Rejection Over Miller et al. in View of Williams et al., and Further in View of Liang et al.

Claims 9-15, 17-19, 21, 23, 25 and 28-31 were rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US 6,228,785) in view of Williams et al. (US 4,210,459), and further in view of Liang et al. (WO 00/44975).

The Examiner said that the disclosures of Miller et al. and Williams et al. fail to teach the use of elemental sulfur in the asphalt matrix. Liang et al. was cited as disclosing the addition of 0.05 to 0.2 wt% elemental sulfur to an elastomer modified asphalt for use in a roofing membrane. The elemental sulfur cross-links the elastomer to allow the use of a lower amount of elastomer while retaining the flexibility and flow resistance properties of the roofing membrane (page 2, lines 1-15). The Examiner said that it would have been obvious to modify the Miller et al. roofing shingles with the sulfur of Liang et al. with the motivation of forming a bituminous composition with a range of viscosities that are readily processed as compared with conventional non-cross-linked systems.

The Lee declaration demonstrates unexpected results from the sulfur addition.

Applicants submitted a declaration of Jerry Lee under 37 CFR 1.132 to demonstrate an unexpected tear strength improvement from the addition of elemental sulfur to the coating material of the roof covering. The Examiner agreed that the experimental results in the declaration show significant tear strength improvements. However, the Examiner stated that the declaration fails to demonstrate why the improved tear strength due to the addition of elemental sulfur is surprising and/or unexpected.

The experimental results in the declaration show improvements in tear strength of 16% and 19% resulting from the addition of only 0.2% elemental sulfur to the coating material. Mr. Lee's education and work experience qualify him as an expert in the technology of roofing shingles. In the declaration, Mr. Lee stated that in his professional opinion it was a surprising and unexpected result to achieve the

significant improvements in tear strength of the shingles as a result of the relatively small amounts of elemental sulfur added to the coating material.

Applicants submit that the Lee declaration includes all the factual evidence required to overcome the Examiner's prima facie case of obviousness. The presenting of evidence showing a significant benefit, along with the statement by an expert in the field that the results were unexpected, should be sufficient to rebut the obviousness rejection. This proposition is supported by a line of CAFC cases. For example, in In re Soni, 34 USPQ2d 1684 (Fed. Cir. 1995), the Court stated:

"Applicant's showing of substantially improved results for invention, and statement that results were unexpected, should suffice to establish unexpected results absent evidence to contrary; applicants who presented specific data demonstrating substantially improved properties for claimed conductive polymer compositions... and stated that such results were unexpected, therefore established unexpected results for invention in absence of contrary evidence and successfully overcame prima facie case of obviousness."

In view of the above, Applicants respectfully submit that the Lee declaration successfully rebuts the obviousness rejection of claim 9 and its dependent claims.

There is no motivation to apply the teachings of Liang et al. to a coating material that does not include a polymer.

Amended claim 9 recites a coating material that consists essentially of asphalt, filler and added sulfur, and it does not include an elastomer or other polymer. In contrast, the teachings of Liang et al. all relate to a coating material that contains an elastomer. In Liang et al., the sulfur cross-links the elastomer to allow the use of a lower amount of elastomer while retaining the flexibility and flow resistance properties of the roofing membrane. Thus, Liang et al. only provides motivation to add sulfur to a coating material that contains an elastomer, and it provides no motivation at all to add sulfur to a coating material without an elastomer such as that recited in claim 9.

The Examiner argued that Liang et al. provides a motivation of forming a bituminous composition with a range of viscosities that are readily processed as compared with conventional non-cross-linked systems. However, this motivation is

strictly limited to a coating material that contains an elastomer. The teachings in Liang et al. about the viscosities, the processing, and the cross-linking, are all limited to coating materials containing elastomers. The teachings are not applicable to coating materials that do not contain elastomers. The Examiner attempts to generalize or stretch the teachings so that they can be applied to the present claims, but there is no basis for doing this based on Liang et al. or the other cited references.

The Examiner also argued that Liang et al. was cited for the idea of adding sulfur, not for the idea of including an elastomer in the coating material. However, without an elastomer in the coating material, there is simply no motivation to apply the teachings of Liang et al. about adding sulfur. According to Liang et al., the sulfur addition and the elastomer in the coating material are inextricably linked. There is no motivation to use one without the other.

Liang et al. teaches nothing about the tear strength of roof coverings or any mechanism to increase the tear strength.

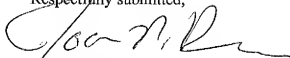
Liang et al. adds sulfur to cross-link the elastomer to allow the use of a lower amount of elastomer while retaining the flexibility and flow resistance properties of the roofing membrane. These properties have nothing to do with the tear strength of roof coverings. In Applicants' invention, the elemental sulfur is added to cross-link with the asphalt and form a bond with the sizing material, thereby increasing the tear strength of the roof covering. Liang et al. suggests neither cross-linking of the sulfur with the asphalt nor bonding of the sulfur with a sizing material. Thus, there is no suggestion in Liang et al. of any mechanism to increase the tear strength.

At least for the reasons discussed above, Applicants respectfully submit that independent claim 9 is nonobvious over Miller et al. in view of Williams et al. and Liang et al. Further, Applicants submit that the claims depending from claim 9 are also nonobvious for at least these reasons.

Conclusion

In view of the above remarks, Applicants respectfully submit that the claimed invention is patentable over the prior art. Accordingly, a Notice of Allowance is respectfully requested. However, if the Examiner does not feel that the application is in condition for allowance, Applicants respectfully request that the Amendments to claim 9 be entered in order to place the case in condition for Appeal.

Respectfully submitted,



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